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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/748,075 | 12/30/2003 | Wei-Lian Lin | N1085-00231 [TSMC2003-053] | 6889 |
| 54657 | 7590 | 08/03/2006 | EXAMINER | |
| DUANE MORRIS LLP IP DEPARTMENT (TSMC) 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103-4196 | | | VALENTIN, JUAN D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2877 | |

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/748,075

Applicant(s)

LIN ET AL.

Examiner

Juan D. Valentin II

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. The claimed invention is directed to non-statutory subject matter. With regards to claims 1, 7, & 14, merely identifying; determining; devising; evaluating etc... is not sufficient to constitute a tangible result, since the outcome of the method steps has not been used in a disclosed practical application nor made available in such a manner that its usefulness in a disclosed practical application is realized. See OG Notices: 22 November 2005, "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility".

Practical application that produces a useful, concrete, and tangible result under Section IV determines whether the claimed invention complies with the subject matter eligibility requirement of 35 U.S.C. Sec. 101, sentence 3, in the OG Notice from 22 November 2005 states 'In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather that the final result achieved by the claimed invention is "useful, tangible, and concrete."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 6-8, 11-14, & 18-20 rejected under 35 U.S.C. 102(b) as being anticipated by Smith (USPN '935 B1).

Claims 1-3, 6-8, 11-13

Smith discloses a method for evaluating at least one opaque defect on a mask substrate, the method comprising examining (claim 8, col. 5, lines 42-60) one or more opaque patterns in a predetermined area of the mask substrate (claim 7), identifying (claim 3,) an opaque defect based on a difference between its light reflection rate and a reference reflection rate (claim 2,), determining a residue height of the opaque defect based on a light transmission rate, and devising a repair formula based on the determined residue height for eliminating the opaque defect (col. 5, line 42-col. 6, line 65, col. 7, line 61-col. 9, line 9). Smith shows that it is known to provide focused ion beam etching to repair an opaque defect after devising a repair formula based on the determined residue height for eliminating the defect (col. 6, lines 29-line 65 & col. 7, lines 18-39) for semiconductor defect detection device. Smith discloses feed forward to a sensor control unit or operator in order to remove the opaque defect from the substrate (claim 11, Smith, col. 7, lines 18-39).

Claims 14 & 18-20

Smith discloses a method for repairing an opaque defect on a mask substrate, the system comprising providing focused ion beam etching to repair an opaque defect after examining one or more opaque patterns of the mask substrate, imposing a light source over the opaque patterns, determining light reflection rates of the opaque patterns, identifying one or more normal opaque patterns based on the determined light reflection rates, identifying a reference reflection rate

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based on the light reflection rates identified for the normal opaque patterns, identifying at least one opaque defect in the opaque patterns based on a difference between its light reflection rate and the reference reflection rate, determining a light transmission rate of the opaque defect, determining a residue height of the opaque defect based on its light transmission rate, and devising a repair formula based on the determined residue height (col. 5, line 42-col. 6, line 65, col. 7, line 61-col. 9, line 9).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 4, 5, 9, 10, 15, 16, & 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view Wang et al. (USPN '813, hereinafter Wang).

Claims 4, 5, 9, 10, 15, 16, & 17

Smith substantially teaches the claimed invention except that it fails to show imposing an inspection light with a stable intensity over the opaque defect and measuring its light transmission rate, and identifying the residue height on the light transmission rate and the co-relation. Wang shows that it is known to provide imposing an inspection light with a stable intensity over the opaque defect and measuring its light transmission rate, and identifying the residue height on the light transmission rate and the co-relation (col. 3, line 33-col. 4, line 31) for

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an optical inspection device. It would have been obvious to someone of ordinary skill in the art to combine the device of Smith with the relationship between light reflection intensity and sample feature height of Wang for the purposes of providing nanometer depth resolution (Wang, col. 1, lines 5-7).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan D. Valentin II whose telephone number is (571) 272-2433. The examiner can normally be reached on Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Juan D Valentin II
Examiner 2877

JDV

July 24, 2006 1



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